"Panopto" for Lecture Capture – A First Time User's Perspective

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Abstract – **In the fall 2015, for the first time, I have used "Panopto" for capturing my lecture in the Differential Equation class. In this short paper, I describe my personal journey of how I used this as a pedagogical tool in my teaching. This is coming from someone who is not a tech-savvy professor, but from someone who is willing to use and try different technology in the classroom but at the same time hold on to some of the traditional methods of teaching. What happens when you mix traditional techniques of teaching with technology? I will also explore some of the advantages and disadvantages of using "Panopto" as a first time users in this technology. If someone is willing to explore this technology in the near future in their classroom, I hope this article will give some insight and feedback to him/her. At the end, I also share some of the student's opinion of using "Panopto" in the classroom.**

Keyword – **Panopto, Lecture Capture, Mathematics Education, Technology in the Classroom.**

I. INTRODUCTION

Lecture capture is not a new trend or phenomena by any means – it has been with us for many years. There are many technologies that can be used to capture a lecture. For example, Echo 360 (Echo360, 2010), Panopto Course Cast (Panopto, 2010), Camtasia Relay (Techsmith, 2010) and Tegrity (Tegrity, 2010) are just to name a few. As time progresses, we see new technology is introduced for capturing lecture and each one has its own advantages and disadvantages. In the fall of 2015, my college took an initiative to encourage faculty members to use "Panopto" in their teaching. I participated in this initiative and obviously as a first time user, faced some difficulties. With the help of educational technology office, I overcame all of the difficulties and I'm now able to implement this technology in my classroom. One point of this paper is to share this personal story with the audience.

II. THE BEGINNING OF THE STORY

There was a training session in the beginning of the semester for those faculties who will use Panopto for the first time. This training session was very helpful for me to initially set up the Panopto account and link it to the Blackboard account. Like some of the lecture capture software (definitely not all), Panopto provides a direct link between the Blackboard account and Panopto – in fact, Panopto became a tool inside the Blackboard account where you can easily access it. Once the initial set up is done, you can easily access and record videos through your Blackboard account and there is no separate account needed to use the Panopto. The educational technology office of your college can certainly help you to accomplish this. But if you want to do it alone, my college has created a beautiful website with videos and documents of how you can initially set up Panopto to link to your Blackboard account course(Office, 2015). This process is extremely easy and since it is no longer a problem for me, it should not be a problem for anybody else but always remember, people at the technology department are always there to help you.

More Detailed Description

The use of Panopto to capture the lecture will be even easier if you are teaching in a smart classroom. But this is not the case for me as the number of smart classrooms are limited in my campus. So I need to carry my laptop each day into my lecture. This is perhaps one of the biggest drawbacks for me to carry out the heavy laptop with the webcam and charger each day into the classroom. Please see Figure 1 for the setup of laptop and webcam in my classroom.

Fig. 1.

When using Panopto, you have the option for two screen – one for video source and the other for PowerPoint, in case you are using PowerPoint in the lecture. You can also use the second input as another source of video input which is exactly what I did. I have used this in my differential equation class and I do not use PowerPoint in that class. I wanted to capture my lecture and what I write on the board as accurately as I can. I used two video sources – one from the build in video in the laptop and the other one is the webcam attached to the laptop using an USB cable. Each video will capture each part of the board. Since I cannot move my camera while doing the lecture (although possible but may cause disruption in the class while teaching), this is the best option I have in order to capture the whole board. In the mathematics classroom, in particular, it is as important to see the board as to hear the lecture otherwise students will have difficult time understanding the steps. Please look at Figure 2 for the setup.

Build-in camera is used to capture the left hand side of the board

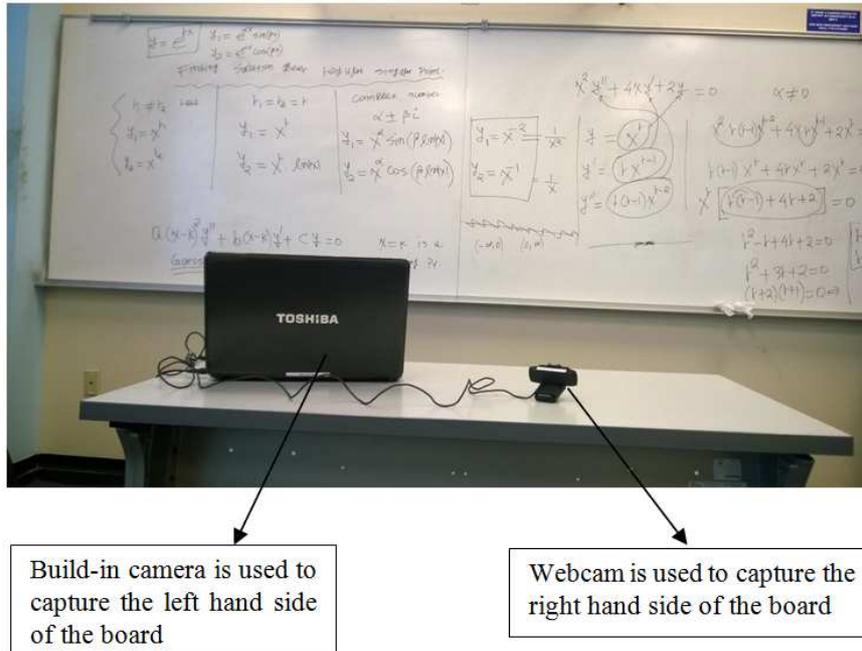Webcam is used to capture the right hand side of the board

Fig. 2.

The good news is that when students watch these videos they have the options to watch these two screens side by side or make one of them full screen. The transition from one screen to the next is very smooth – almost like everything in one big screen. Please see Figure 3 for a screenshot.

The secondary source

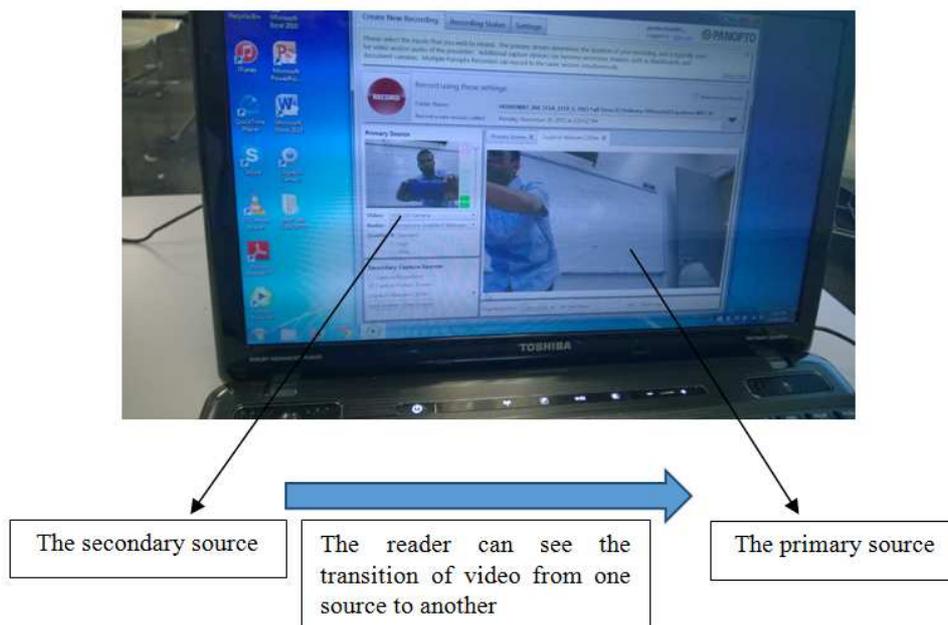The reader can see the transition of video from one source to another

The primary source

Fig. 3.

After the lecture is recorded, all the mundane technological steps are performed automatically – this is another advantage for using Panopto as a lecture capture. This means converting the videos in the appropriate format, performing video compression and other routine editing of the video to make it as clear as possible, and finally downloading the content to the Blackboard account for students to access and view the video – all of these steps are carried out automatically by the Panopto

software. Therefore I can relax and do what I do best – lecture of course!

When posting these videos in the Blackboard account, you can include additional functionality including enabling students to download the content if they want to, setting up the quality of the video(standard, high or ultra), setting up the automatic loading option or minimizing screen when in use etc. Please take a look at Figure 4 for the screenshot with some of these options.
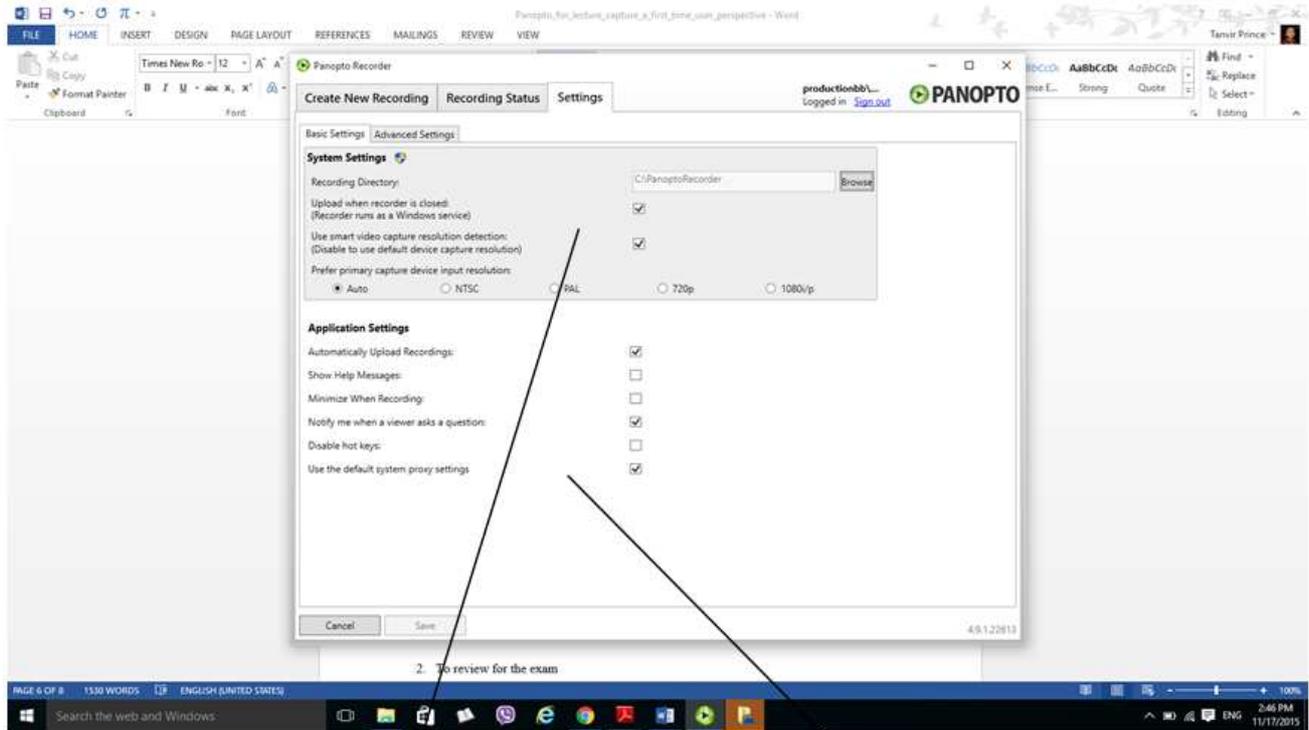
Fig. 4.

III. USEFULNESS TO STUDENTS

How are students in my class using this in my courses? If the readers are interested to know some of the uses of lecture capture, in general, in a class room, please see (Educause, 2008). I had conducted a short survey toward the end of the semester. I found out that primarily there are two reasons why students watch my Panopto videos:
1. To get and study the materials for a missing class
2. To review for the exam

Some of the other minor reasons of why my students are using these videos:
1. To correct and complete the notes which was taken during the lecture
2. To share the content with other students who are not officially registered in my class

Some of the advantages of using this technology in a nutshell are given below:
1. Very easy to set up initially.
2. Links with the existence Blackboard account courses – no separate account or website is needed.
3. Gives option to use PowerPoint with the lecture and capture both at the same time
4. Very easy to edit the video after the recording is finished. In this editing mode, you can easily cut part of the video, add captions and notes to the video etc.
5. A local copy of the video is saved by default in the local computer where the Panopto is used. This video can be used later in other places including your personal webpage and YouTube etc.

6. No need to worry about copyright since you are capturing your own lecture and you are the sole owner of its content. In this case, also make sure you are not recording your students in the classroom.

7. The video can also be shared in many different platforms directly from the Panopto website which include many of the social media.

8. Students will be held accountable for the missing class since now they can access the lecture any places in the world where there is an internet access.

9. Students can correct their mistakes in the class notes by watching the videos

10. They can watch these videos on the go – by downloading these in their smart phones.

Usefulness to Me

So how does Panopto benefit me as an instructor? Some of the advantages of using Panopto for the instructor are given below:

1. You can use these videos again in the later semester when teaching the same courses.

2. These are your own videos – if you want, you can share this in the social media including YouTube and Facebook.

3. These videos will be very helpful when developing hybrid or online courses of the same subject.

4. In an emergency, if your class is cancelled, you can post videos from your home and cover up part of your missing lecture.

5. Most importantly, you can watch your own videos giving lecture in the classroom and evaluate yourself. This will certainly improve your performance as a lecturer.

Finally any technology which help students succeed in academic life should also have a positive impact on retention (Whatley, 2007).

Disadvantage

Now let us talk about some of the disadvantages of using Panopto. Some of these are given below:

1. Before I use the laptop, I need to make sure it is fully charged. If the laptop shuts down during the recording, sometimes for some unknown reason, the recording gets lost. This happened to me one time and from that point on, I always connect my laptop to the power line during the lecture. In this case, I need to be careful that I don't trip off from the charger. Please see the Figure 5. If you lecture in a smart room, then it might have a built in camera and you do not need to bring your laptop to the lecture.

Need to be careful during lecture

Fig. 5.

2. At the end of the lecture, I need to stay for a few minutes for the videos to be processed. It does not take a long time but it does need about 5 minutes to process. This can be done at a later time, but it is recommended to do this right after the lecture for immediate uploading into the Blackboard account.

3. The default name that come with the videos are quite long. To give an example, see the name of one my videos: "Hos01_MAT_360_515A_1159_2015_Fall_Term_Ordinary_Differentail_Equation_Wednesday_ October 14_2015_at_2:05pm" I was told by the educational technology office

not to change these names since it will be helpful in the long run when all these videos from all the different courses will be saved in a large repository. But if anybody wants, the name can be easily changed but must be done manually one by one.

4. When you move away from the laptop, the quality of the audio decreases.

5. If you write too small in the board or use a marker which is not sharp enough, students may have difficulty seeing these clearly in the videos.

6. It is not free. Usually the institution has a license or agreement and in that case the instructor does not need to worry about the money (which is

what happened in my case). But for the first time user, Panopto provides a free trial experiment. Please refer to (Panopto, 2010) for detail.

Other than these few disadvantages, I cannot really find any other.

IV. A SHORT STUDENT SURVEY

A short student survey was conducted at the end of the semester. The survey consisted of only three questions and one free response question.

1. How many times (in average) you watch these Panopto videos per week?
   a. 0-1   b. 2 – 3   c. More than 3 times
2. Why do you watch these videos (for most of the time)? Select all that apply:
   a. To prepare for the exam   b. Making up for the missing class.   c. Other (Explain)
3. How helpful are these videos in your study?
   a. Very helpful   b. Somewhat helpful   c. Not really helpful
4. How can I improve your experience while watching these videos?

Please look at the following graph for the answers to questions 1-3:

Question#1

Question#2
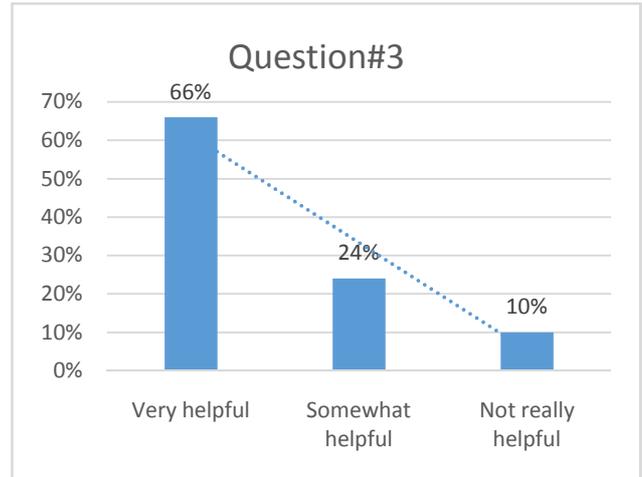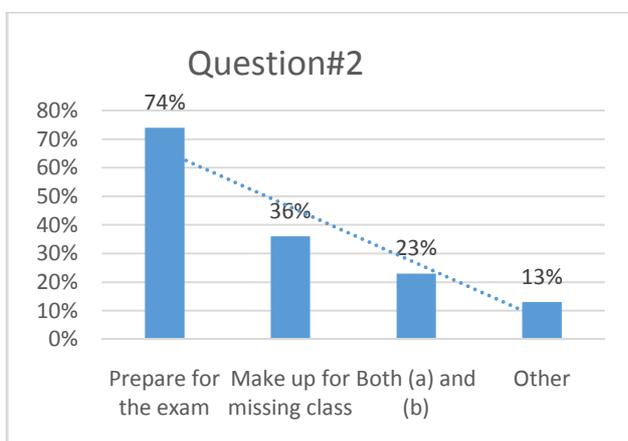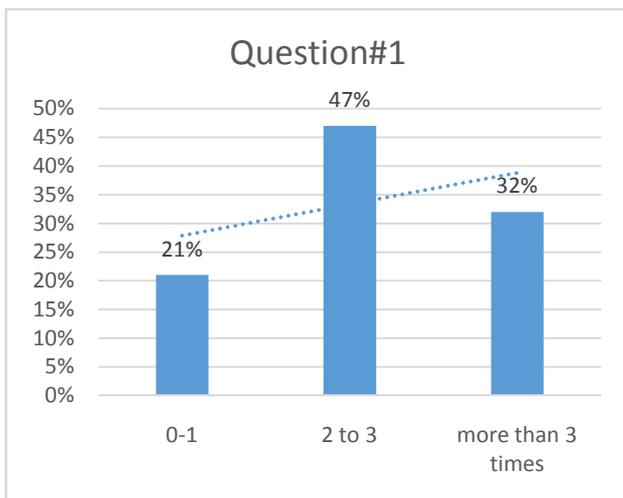
Question#3

It is clear from this little survey that the majority of the students are finding these Panopto videos very helpful.

V. SUGGESTIONS FROM STUDENTS TO IMPROVE "PANOPTO" VIDEOS

All the responses from the students for question 4are given below without editing:

1. Improve the angle of the right camera. It can be slightly off sometimes. But overall I am incredibly pleased with the system of recording your classes.
2. It would be better if the images were clearer. And not all the videos are posted. There are some "missing" videos.
3. Picture and voice quality can be improved. Videos did not capture the entire board.
4. So far you have been doing a pretty good job with the videos. Maybe speak a little slower for us that English is not our first language.
5. The videos are great so far. The only thing I would suggest is to place the camera a little farther back to make sure both boards are in view and none of the notes are cut off.
6. Overall the videos are very helpful, the quality of the videos could improve for some of them where the words in the board are not fully clear, they look blurry. Also it would be nice to be able to select one of the screens (the one you prefer) and that the camera covers the entire board because sometimes the top is not seen on the video. Other than that, they are great! Thanks.
7. I think that the videos are great overall. The only problem that I found was that the writing was sometimes blurry. It will be a lot more helpful if we can see the writing more clear, in case someone missed a class. But if you have your notes and you just want to be clearer on something it's very helpful.
8. Sometimes in the video the board is a little blurry so makes it a difficult to read and understand.
9. Everything is good but the zoom point and the whole board should be covered then it will be so helpful to students.

10. Invest on better filming equipment, the resolution of your current videos is too low.
I would like to suggest that you can use an extended stick with which you can point at the area of a question that you are explaining to students instead of being in front of the whiteboard because in this way we can have the view of whole question.

11. The sound is very clear and distinct, but the video quality needs some improvement. Also, the primary screen keeps switching from full view to the view with the desktop shown for every other slide, which makes it distracting. Another issue is that the professor is shown on both screen at the same time while lecturing. If one of the screen could stay static while the other shows the professor, then that would be great. However, the lectures are clear and it gives a classroom feeling. It just needs some little twerks and they will be good.

VI. CONCLUSION

My intention for this paper was not to give a detailed description and technical support for using Panopto but to share some thoughts and personal experience of using the technology. If you are interested to use this technology and it is your first time and need some further insight, please do not hesitate to contact me and I will try my best to provide the support.

VII. ACKNOWLEDGEMENT

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REFERENCE

[1] ALT-C. (2007). Student perceptions of web-based lecture recording technologies. ALTC Presentation. Retrieved from http://www.alt.ac.uk/altc2007/timetable/ files/1360/ ALTC_WBLT_Presentation_V1e.ppt

[2] Briggs, L. (2007). Can classroom capture boost retention rates? Retrieved from http://campustechnology.com/articles/2007/10/can-classroom-capture-boost-retention-rates.aspx

[3] Echo360. (2010). The Echo System. Retrieved from http://www.echo360.com/the-echosystem/

[4] Educause. (2008). 7 things you should know about Lecture Capture. Retrieved from http://www.educause.edu/ir/library/pdf/ELI7044.pdf

[6] Office, E. T. (2015). Panopto - How To? Hostos Community College. Retrieved from http://commons.hostos.cuny.edu/panopto/how-to/

[7] Panopto. (2010). Panopto Course Cast – total capture, total recall. Retrieved from http://www.panopto.com

[8] Techsmith. (2010). Camtasia Relay. Retrieved from http://www.techsmith.com/camtasiarelay.asp

[9] Tegrity. (2010). Tegrity Campus. Retrieved from http://www.tegrity.com

[10] Whatley, J. &. (2007). Using video to record summary lectures to aid students' retention. Interdisciplinary Journal of Knowledge and Learning Objects, 3.

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Dr. Tanvir Prince has a Ph.D. in Mathematics and is currently working as an Associate Professor of Mathematics at Hostos Community College, City University of New York. He is interested in such areas as Topological Quantum Field Theory and Recreational Mathematics. He has recently become very interested in Mathematics Education. He has presented at numerous international and national conferences. He is regularly publishing articles focusing both on pure mathematics and mathematics education in various peer reviewed journals. Dr. Prince is also currently collaborating on projects that aim to expose community college students to mathematical research early in their academic careers. His other interests include traveling and cooking.